



#12

1

SEQUENCE LISTING

<110> ZHOU, MING-MING
AGGARWAL, ANEEL

<120> METHODS OF IDENTIFYING MODULATORS OF BROMODOMAINS

<130> 2459-1-003 CIP

<140> 09/784,553

<141> 2001-02-16

<150> 09/510,314

<151> 2000-02-22

<160> 63

<170> PatentIn version 3.0

<210> 1

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<212> DNA

<213> Homo sapiens

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<212> PRT

<213> Homo sapiens

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Gln	Leu	Arg	Ser	Ala	Pro	Arg	Ala	Lys	Lys	Leu	Glu	Lys	Leu	Gly	Val
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Asn	Pro	Asn	Pro	Ser	Pro	Thr	Pro	Pro	Arg	Ala	Asp	Leu	Gln	Gln	Ile
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Ile	Val	Ser	Leu	Thr	Glu	Ser	Cys	Arg	Ser	Cys	Ser	His	Ala	Leu	Ala
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Ala	His	Val	Ser	His	Leu	Glu	Asn	Val	Ser	Glu	Glu	Glu	Met	Asn	Arg
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Leu	Leu	Gly	Ile	Val	Leu	Asp	Val	Glu	Tyr	Leu	Phe	Thr	Cys	Val	His
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 195 200 205
 Ser Leu Glu Lys Lys Pro Pro Phe Glu Lys Pro Ser Ile Glu Gln Gly
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 225 230 235 240
 Arg Gln Thr Ile Val Glu Leu Ala Lys Met Phe Leu Asn Arg Ile Asn
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 Tyr Trp His Leu Glu Ala Pro Ser Gln Arg Arg Leu Arg Ser Pro Asn
 260 265 270
 Asp Asp Ile Ser Gly Tyr Lys Glu Asn Tyr Thr Arg Trp Leu Cys Tyr
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 Cys Asn Val Pro Gln Phe Cys Asp Ser Leu Pro Arg Tyr Glu Thr Thr
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 Gln Val Phe Gly Arg Thr Leu Leu Arg Ser Val Phe Thr Val Met Arg
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 Glu Lys Arg Thr Leu Ile Leu Thr His Phe Pro Lys Phe Leu Ser Met
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 Leu Glu Glu Glu Val Tyr Ser Gln Asn Ser Pro Ile Trp Asp Gln Asp
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 Phe Leu Ser Ala Ser Ser Arg Thr Ser Gln Leu Gly Ile Gln Thr Val
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 Ile Asn Pro Pro Pro Val Ala Gly Thr Ile Ser Tyr Asn Ser Thr Ser
 385 390 395 400
 Ser Ser Leu Glu Gln Pro Asn Ala Gly Ser Ser Ser Pro Ala Cys Lys
 405 410 415
 Ala Ser Ser Gly Leu Glu Ala Asn Pro Gly Glu Lys Arg Lys Met Thr
 420 425 430
 Asp Ser His Val Leu Glu Glu Ala Lys Lys Pro Arg Val Met Gly Asp
 435 440 445
 Ile Pro Met Glu Leu Ile Asn Glu Val Met Ser Thr Ile Thr Asp Pro
 450 455 460
 Ala Ala Met Leu Gly Pro Glu Thr Asn Phe Leu Ser Ala His Ser Ala
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 Met Trp Leu Val Gly Leu Gln Asn Val Phe Ser His Gln Leu Pro Arg
 515 520 525
 Met Pro Lys Glu Tyr Ile Thr Arg Leu Val Phe Asp Pro Lys His Lys
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 Thr Leu Ala Leu Ile Lys Asp Gly Arg Val Ile Gly Gly Ile Cys Phe
 545 550 555 560
 Arg Met Phe Pro Ser Gln Gly Phe Thr Glu Ile Val Phe Cys Ala Val
 565 570 575
 Thr Ser Asn Glu Gln Val Lys Gly Tyr Gly Thr His Leu Met Asn His
 580 585 590
 Leu Lys Glu Tyr His Ile Lys His Asp Ile Leu Asn Phe Leu Thr Tyr
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 Ala Asp Glu Tyr Ala Ile Gly Tyr Phe Lys Lys Gln Gly Phe Ser Lys
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 Glu Ile Lys Ile Pro Lys Thr Lys Tyr Val Gly Tyr Ile Lys Asp Tyr
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 Glu Gly Ala Thr Leu Met Gly Cys Glu Leu Asn Pro Arg Ile Pro Tyr
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 Thr Glu Phe Ser Val Ile Ile Lys Lys Gln Lys Glu Ile Ile Lys Lys
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 Leu Ile Glu Arg Lys Gln Ala Gln Ile Arg Lys Val Tyr Pro Gly Leu
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 Ser Cys Phe Lys Asp Gly Val Arg Gln Ile Pro Ile Glu Ser Ile Pro
 690 695 700
 Gly Ile Arg Glu Thr Gly Trp Lys Pro Ser Gly Lys Glu Lys Ser Lys
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 Glu Pro Arg Asp Pro Asp Gln Leu Tyr Ser Thr Leu Lys Ser Ile Leu
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 Gln Gln Val Lys Ser His Gln Ser Ala Trp Pro Phe Met Glu Pro Val
 740 745 750
 Lys Arg Thr Glu Ala Pro Gly Tyr Tyr Glu Val Ile Arg Phe Pro Met
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 Asp Leu Lys Thr Met Ser Glu Arg Leu Lys Asn Arg Tyr Tyr Val Ser
 770 775 780

Lys Lys Leu Phe Met Ala Asp Leu Gln Arg Val Phe Thr Asn Cys Lys
 785 790 795 800

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<212> PRT

<213> Artificial Sequence

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<220>

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<223> Any amino acid; this range may encompass 2-3 residues

<220>

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<222> (6)..(13)

<223> Any amino acid; this range may encompass 5-8 residues

<220>

<221> MOD_RES

<222> (14)

<223> Pro, Lys or His

<220>

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<220>

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<222> (17)

<223> Pro, Lys or His

<220>

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<222> (18)..(22)

<223> Any amino acid

<220>

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<222> (24)

<223> Met, Ile or Val

<400> 3

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Xaa Xaa Xaa Xaa Xaa Xaa Pro Xaa Asp
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<210> 5
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 <213> Artificial Sequence

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 <213> Homo sapiens

<220>
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 35 40 45
 Pro Met Asp Leu Lys Thr Met Ser Glu Arg Leu Lys Asn Arg Tyr Tyr
 50 55 60
 Val Ser Lys Lys Leu Phe Met Ala Asp Leu Gln Arg Val Phe Thr Asn
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 Cys Lys Glu Tyr Asn Ala Pro Glu Ser Glu Tyr Tyr Lys Cys Ala Asn
 85 90 95
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 100 105 110

<210> 8
 <211> 110
 <212> PRT
 <213> Homo sapiens

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 Pro Val Lys Lys Ser Glu Ala Pro Asp Tyr Tyr Glu Val Ile Arg Phe
 35 40 45
 Pro Ile Asp Leu Lys Thr Met Thr Glu Arg Leu Arg Ser Arg Tyr Tyr
 50 55 60
 Val Thr Arg Lys Leu Phe Val Ala Asp Leu Gln Arg Val Ile Ala Asn
 65 70 75 80
 Cys Arg Glu Tyr Asn Pro Pro Asp Ser Glu Tyr Cys Arg Cys Ala Ser
 85 90 95
 Ala Leu Glu Lys Phe Phe Tyr Phe Lys Leu Lys Glu Gly Gly
 100 105 110

<210> 9
 <211> 109
 <212> PRT
 <213> *Tetrahymena thermophila*

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 20 25 30
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 35 40 45
 Ile Asp Ile Lys Ala Ile Glu Lys Lys Leu Gln Asn Asn Gln Tyr Val
 50 55 60
 Asp Lys Asp Gln Phe Ile Lys Asp Val Lys Arg Ile Phe Thr Asn Ala
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 Lys Ile Tyr Asn Gln Pro Asp Thr Ile Tyr Tyr Lys Ala Ala Lys Glu
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 Leu Glu Asp Phe Val Glu Pro Tyr Leu Thr Lys Leu Lys
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<210> 10
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 <213> *Saccharomyces cerevisiae*

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 Val Asn Lys Glu Glu Val Pro Asp Tyr Tyr Asp Phe Ile Lys Glu Pro
 35 40 45
 Met Asp Leu Ser Thr Met Glu Ile Lys Leu Glu Ser Asn Lys Tyr Gln
 50 55 60
 Lys Met Glu Asp Phe Ile Tyr Asp Ala Arg Leu Val Phe Asn Asn Cys
 65 70 75 80
 Arg Met Tyr Asn Gly Glu Asn Thr Ser Tyr Tyr Lys Tyr Ala Asn Arg
 85 90 95
 Leu Glu Lys Phe Phe Asn Asn Lys Val Lys Glu Ile Pro
 100 105

<210> 11
 <211> 112
 <212> PRT
 <213> Homo sapiens

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 35 40 45
 Lys Ser Pro Met Asp Leu Ser Thr Ile Lys Arg Lys Leu Asp Thr Gly
 50 55 60
 Gln Tyr Gln Glu Pro Trp Gln Tyr Val Asp Asp Ile Trp Leu Met Phe
 65 70 75 80
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 85 90 95
 Cys Ser Lys Leu Ser Glu Val Phe Glu Gln Glu Ile Asp Pro Val Met
 100 105 110

<210> 12
 <211> 112
 <212> PRT
 <213> Homo sapiens

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 35 40 45
 Lys Asn Pro Met Asp Leu Ser Thr Ile Lys Arg Lys Leu Asp Thr Gly
 50 55 60
 Gln Tyr Gln Glu Pro Trp Gln Tyr Val Asp Asp Val Trp Leu Met Phe
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 Asn Asn Ala Trp Leu Tyr Asn Arg Lys Thr Ser Arg Val Tyr Lys Phe
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 Cys Ser Lys Leu Ala Glu Val Phe Glu Gln Glu Ile Asp Pro Val Met
 100 105 110

<210> 13
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<212> PRT

<213> *Mus musculus*

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 35 40 45
 Lys Asn Pro Met Asp Leu Ser Thr Ile Lys Arg Lys Leu Asp Thr Gly
 50 55 60
 Gln Tyr Gln Glu Pro Trp Gln Tyr Val Asp Asp Val Arg Leu Met Phe
 65 70 75 80
 Asn Asn Ala Trp Leu Tyr Asn Arg Lys Thr Ser Arg Val Tyr Lys Phe
 85 90 95
 Cys Ser Lys Leu Ala Glu Val Phe Glu Gln Glu Ile Asp Pro Val Met
 100 105 110

<210> 14

<211> 111

<212> PRT

<213> *Caenorhabditis elegans*

<400> 14

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 20 25 30
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 35 40 45
 Arg Pro Met Asp Leu Glu Thr Val His Lys Lys Leu Tyr Ala Gly Gln
 50 55 60
 Tyr Gln Asn Ala Gly Gln Phe Cys Asp Asp Ile Trp Leu Met Leu Asp
 65 70 75 80
 Asn Ala Trp Leu Tyr Asn Arg Lys Asn Ser Lys Val Tyr Lys Tyr Gly
 85 90 95
 Leu Lys Leu Ser Glu Met Phe Val Ser Glu Met Asp Pro Val Met
 100 105 110

<210> 15

<211> 110

<212> PRT

<213> *Homo sapiens*

<400> 15

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Ile	Ile	Asn	Asp	Met	Arg	Asp	Leu	Pro	Asn	Thr	Tyr	Pro	Phe	His	Thr
			20					25					30		

Pro	Val	Asn	Ala	Lys	Val	Val	Lys	Asp	Tyr	Tyr	Lys	Ile	Ile	Thr	Arg
		35					40					45			

Pro	Met	Asp	Leu	Gln	Thr	Leu	Arg	Glu	Asn	Val	Arg	Lys	Arg	Leu	Tyr
	50					55					60				

Pro	Ser	Arg	Glu	Glu	Phe	Arg	Glu	His	Leu	Glu	Leu	Ile	Val	Lys	Asn
65					70					75					80

Ser	Ala	Thr	Tyr	Asn	Gly	Pro	Lys	His	Ser	Leu	Thr	Gln	Ile	Ser	Gln
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Ser	Met	Leu	Asp	Leu	Cys	Asp	Glu	Lys	Leu	Lys	Glu	Lys	Glu
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<210> 16

<211> 110

<212> PRT

<213> Mesocricetus auratus

<400> 16

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Ile	Ile	Asn	Asp	Met	Arg	Asp	Leu	Pro	Asn	Thr	Tyr	Pro	Phe	His	Thr
			20					25					30		

Pro	Val	Asn	Ala	Lys	Val	Val	Lys	Asp	Tyr	Tyr	Lys	Ile	Ile	Thr	Arg
		35					40					45			

Pro	Met	Asp	Leu	Gln	Thr	Leu	Arg	Glu	Asn	Val	Arg	Lys	Arg	Leu	Tyr
	50					55					60				

Pro	Ser	Arg	Glu	Glu	Phe	Arg	Glu	His	Leu	Glu	Leu	Ile	Val	Lys	Asn
65					70					75					80

Ser	Ala	Thr	Tyr	Asn	Gly	Pro	Lys	His	Ser	Leu	Thr	Gln	Ile	Ser	Gln
				85					90					95	

Ser	Met	Leu	Asp	Leu	Cys	Asp	Glu	Lys	Leu	Lys	Glu	Lys	Glu
		100						105					110

<210> 17

<211> 111

<212> PRT

<213> Homo sapiens

<400> 17

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Ile Val Thr Gln Lys Met Met Ala Val Pro Asp Ser Trp Pro Phe His
          20           25           30

His Pro Val Asn Lys Lys Phe Val Pro Asp Tyr Tyr Lys Val Ile Val
          35           40           45

Asn Pro Met Asp Leu Glu Thr Ile Arg Lys Asn Ile Ser Lys His Lys
          50           55           60

Tyr Gln Ser Arg Glu Ser Phe Leu Asp Asp Val Asn Leu Ile Leu Ala
65           70           75           80

Asn Ser Val Lys Tyr Asn Gly Pro Glu Ser Gln Tyr Thr Lys Thr Ala
          85           90           95

Gln Glu Ile Val Asn Val Cys Tyr Gln Thr Leu Thr Glu Tyr Asp
          100          105          110

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<210> 18

<211> 111

<212> PRT

<213> Mesocricetus auratus

<400> 18

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          20           25           30

His Pro Val Asn Lys Lys Phe Val Pro Asp Tyr Tyr Lys Val Ile Val
          35           40           45

Ser Pro Met Asp Leu Glu Thr Ile Arg Lys Asn Ile Ser Lys His Lys
          50           55           60

Tyr Gln Ser Arg Glu Ser Phe Leu Asp Asp Val Asn Leu Ile Leu Ala
65           70           75           80

Asn Ser Val Lys Tyr Asn Gly Ser Glu Ser Gln Tyr Thr Lys Thr Ala
          85           90           95

Gln Glu Ile Val Asn Val Cys Tyr Gln Thr Leu Thr Glu Tyr Asp
          100          105          110

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<210> 19

<211> 111

<212> PRT

<213> Homo sapiens

<400> 19

Lys Pro Gly Arg Val Thr Asn Gln Leu Gln Tyr Leu His Lys Val Val
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 20 25 30
 Val Asp Ala Val Lys Leu Gly Leu Pro Asp Tyr His Lys Ile Ile Lys
 35 40 45
 Gln Pro Met Asp Met Gly Thr Ile Lys Arg Arg Leu Glu Asn Asn Tyr
 50 55 60
 Tyr Trp Ala Ala Ser Glu Cys Met Gln Asp Phe Asn Thr Met Phe Thr
 65 70 75 80
 Asn Cys Tyr Ile Tyr Asn Lys Pro Thr Asp Asp Ile Val Leu Met Ala
 85 90 95
 Gln Thr Leu Glu Lys Ile Phe Leu Gln Lys Val Ala Ser Met Pro
 100 105 110

<210> 20

<211> 111

<212> PRT

<213> Homo sapiens

<400> 20

Lys Pro Gly Arg Lys Thr Asn Gln Leu Gln Tyr Met Gln Asn Val Val
 1 5 10 15
 Val Lys Thr Leu Trp Lys His Gln Phe Ala Trp Pro Phe Tyr Gln Pro
 20 25 30
 Val Asp Ala Ile Lys Leu Asn Leu Pro Asp Tyr His Lys Ile Ile Lys
 35 40 45
 Asn Pro Met Asp Met Gly Thr Ile Lys Lys Arg Leu Glu Asn Asn Tyr
 50 55 60
 Tyr Trp Ser Ala Ser Glu Cys Met Gln Asp Phe Asn Thr Met Phe Thr
 65 70 75 80
 Asn Cys Tyr Ile Tyr Asn Lys Pro Thr Asp Asp Ile Val Leu Met Ala
 85 90 95
 Gln Ala Leu Glu Lys Ile Phe Leu Gln Lys Val Ala Gln Met Pro
 100 105 110

<210> 21

<211> 111

<212> PRT

<213> Drosophila melanogaster

<400> 21

Arg	Pro	Gly	Arg	Asn	Thr	Asn	Gln	Leu	Gln	Tyr	Leu	Ile	Lys	Thr	Val
1				5					10					15	
Met	Lys	Val	Ile	Trp	Lys	His	His	Phe	Ser	Trp	Pro	Phe	Gln	Gln	Pro
		20						25					30		
Val	Asp	Ala	Lys	Lys	Leu	Asn	Leu	Pro	Asp	Tyr	His	Lys	Ile	Ile	Lys
		35				40						45			
Gln	Pro	Met	Asp	Met	Gly	Thr	Ile	Lys	Lys	Arg	Leu	Glu	Asn	Asn	Tyr
		50				55					60				
Tyr	Trp	Ser	Ala	Lys	Glu	Thr	Ile	Gln	Asp	Phe	Asn	Thr	Met	Phe	Asn
65					70					75					80
Asn	Cys	Tyr	Val	Tyr	Asn	Lys	Pro	Gly	Glu	Asp	Val	Val	Val	Met	Ala
				85					90					95	
Gln	Thr	Leu	Glu	Lys	Val	Phe	Leu	Gln	Lys	Ile	Glu	Ser	Met	Pro	
			100					105					110		

<210> 22

<211> 109

<212> PRT

<213> *Saccharomyces cerevisiae*

<400> 22

Asn	Pro	Ile	Pro	Lys	His	Gln	Gln	Lys	His	Ala	Leu	Leu	Ala	Ile	Lys
1				5					10					15	
Ala	Val	Lys	Arg	Leu	Lys	Asp	Ala	Arg	Pro	Phe	Leu	Gln	Pro	Val	Asp
			20					25					30		
Pro	Val	Lys	Leu	Asp	Ile	Pro	Phe	Tyr	Phe	Asn	Tyr	Ile	Lys	Arg	Pro
			35				40					45			
Met	Asp	Leu	Ser	Thr	Ile	Glu	Arg	Lys	Leu	Asn	Val	Gly	Ala	Tyr	Glu
		50				55					60				
Val	Pro	Glu	Gln	Ile	Thr	Glu	Asp	Phe	Asn	Leu	Met	Val	Asn	Asn	Ser
65					70					75					80
Ile	Lys	Phe	Asn	Gly	Pro	Asn	Ala	Gly	Ile	Ser	Gln	Met	Ala	Arg	Asn
				85					90					95	
Ile	Gln	Ala	Ser	Phe	Glu	Lys	His	Met	Leu	Asn	Met	Pro			
			100					105							

<210> 23

<211> 113

<212> PRT

<213> *Homo sapiens*

<400> 23

Lys Lys Gly Lys Leu Ser Glu Gln Leu Lys His Cys Asn Gly Ile Leu
 1 5 10 15

Lys Glu Leu Leu Ser Lys Lys His Ala Ala Tyr Ala Trp Pro Phe Tyr
 20 25 30

Lys Pro Val Asp Ala Ser Ala Leu Gly Leu His Asp Tyr His Asp Ile
 35 40 45

Ile Lys His Pro Met Asp Leu Ser Thr Val Lys Arg Lys Met Glu Asn
 50 55 60

Arg Asp Tyr Arg Asp Ala Gln Glu Phe Ala Ala Asp Val Arg Leu Met
 65 70 75 80

Phe Ser Asn Cys Tyr Lys Tyr Asn Pro Pro Asp His Asp Val Val Ala
 85 90 95

Met Ala Arg Lys Leu Gln Asp Val Phe Glu Phe Arg Tyr Ala Lys Met
 100 105 110

Pro

<210> 24

<211> 113

<212> PRT

<213> Homo sapiens

<400> 24

Lys Lys Gly Lys Leu Ser Glu His Leu Arg Tyr Cys Asp Ser Ile Leu
 1 5 10 15

Arg Glu Met Leu Ser Lys Lys His Ala Ala Tyr Ala Trp Pro Phe Tyr
 20 25 30

Lys Pro Val Asp Ala Glu Ala Leu Glu Leu His Asp Tyr His Asp Ile
 35 40 45

Ile Lys His Pro Met Asp Leu Ser Thr Val Lys Arg Lys Met Asp Gly
 50 55 60

Arg Glu Tyr Pro Asp Ala Gln Gly Phe Ala Ala Asp Val Arg Leu Met
 65 70 75 80

Phe Ser Asn Cys Tyr Lys Tyr Asn Pro Pro Asp His Glu Val Val Ala
 85 90 95

Met Ala Arg Lys Leu Gln Asp Val Phe Glu Met Arg Phe Ala Lys Met
 100 105 110

Pro

<210> 25

<211> 113

<212> PRT

<213> *Drosophila melanogaster*

<400> 25

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Asn Lys Glu Lys Leu Ser Asp Ala Leu Lys Ser Cys Asn Glu Ile Leu
1          5          10          15

Lys Glu Leu Phe Ser Lys Lys His Ser Gly Tyr Ala Trp Pro Phe Tyr
          20          25          30

Lys Pro Val Asp Ala Glu Met Leu Gly Leu His Asp Tyr His Asp Ile
          35          40          45

Ile Lys Lys Pro Met Asp Leu Gly Thr Val Lys Arg Lys Met Asp Asn
          50          55          60

Arg Glu Tyr Lys Ser Ala Pro Glu Phe Ala Ala Asp Val Arg Leu Ile
65          70          75          80

Phe Thr Asn Cys Tyr Lys Tyr Asn Pro Pro Asp His Asp Val Val Ala
          85          90          95

Met Gly Arg Lys Leu Gln Asp Val Phe Glu Met Arg Tyr Ala Asn Ile
          100          105          110

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Pro

<210> 26

<211> 113

<212> PRT

<213> *Saccharomyces cerevisiae*

<400> 26

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Lys Ser Lys Arg Leu Gln Gln Ala Met Lys Phe Cys Gln Ser Val Leu
1          5          10          15

Lys Glu Leu Met Ala Lys Lys His Ala Ser Tyr Asn Tyr Pro Phe Leu
          20          25          30

Glu Pro Val Asp Pro Val Ser Met Asn Leu Pro Thr Tyr Phe Asp Tyr
          35          40          45

Val Lys Glu Pro Met Asp Leu Gly Thr Ile Ala Lys Lys Leu Asn Asp
          50          55          60

Trp Gln Tyr Gln Thr Met Glu Asp Phe Glu Arg Glu Val Arg Leu Val
65          70          75          80

Phe Lys Asn Cys Tyr Thr Phe Asn Pro Asp Gly Thr Ile Val Asn Met
          85          90          95

Met Gly His Arg Leu Glu Glu Val Phe Asn Ser Lys Trp Ala Asp Arg
          100          105          110

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Pro

<210> 27
 <211> 108
 <212> PRT
 <213> Homo sapiens

<400> 27
 Met Glu Met Gln Leu Thr Pro Phe Leu Ile Leu Leu Arg Lys Thr Leu
 1 5 10 15
 Glu Gln Leu Gln Glu Lys Asp Thr Gly Asn Ile Phe Ser Glu Pro Val
 20 25 30
 Pro Leu Ser Glu Val Pro Asp Tyr Leu Asp His Ile Lys Lys Pro Met
 35 40 45
 Asp Phe Phe Thr Met Lys Gln Asn Leu Glu Ala Tyr Arg Tyr Leu Asn
 50 55 60
 Phe Asp Asp Phe Glu Glu Asp Phe Asn Leu Ile Val Ser Asn Cys Leu
 65 70 75 80
 Lys Tyr Asn Ala Lys Asp Thr Ile Phe Tyr Arg Ala Ala Val Arg Leu
 85 90 95
 Arg Glu Gln Gly Gly Ala Val Val Arg Gln Ala Arg
 100 105

<210> 28
 <211> 113
 <212> PRT
 <213> Homo sapiens

<400> 28
 Ser Glu Asp Gln Glu Ala Ile Gln Ala Gln Lys Ile Trp Lys Lys Ala
 1 5 10 15
 Ile Met Leu Val Trp Arg Ala Ala Ala Asn His Arg Tyr Ala Asn Val
 20 25 30
 Phe Leu Gln Pro Val Thr Asp Asp Ile Ala Pro Gly Tyr His Ser Ile
 35 40 45
 Val Gln Arg Pro Met Asp Leu Ser Thr Ile Lys Lys Asn Ile Glu Asn
 50 55 60
 Gly Leu Ile Arg Ser Thr Ala Glu Phe Gln Arg Asp Ile Met Leu Met
 65 70 75 80
 Phe Gln Asn Ala Val Met Tyr Asn Ser Ser Asp His Asp Val Tyr His
 85 90 95
 Met Ala Val Glu Met Gln Arg Asp Val Leu Glu Gln Ile Gln Gln Phe
 100 105 110
 Leu

<210> 29
 <211> 106
 <212> PRT
 <213> Gallus gallus

<400> 29
 Asn Leu Pro Thr Val Asp Pro Ile Ala Val Cys His Glu Leu Tyr Asn
 1 5 10 15
 Thr Ile Arg Asp Tyr Lys Asp Glu Gln Gly Arg Leu Leu Cys Glu Leu
 20 25 30
 Phe Ile Arg Ala Pro Lys Arg Arg Asn Gln Pro Asp Tyr Tyr Glu Val
 35 40 45
 Val Ser Gln Pro Ile Asp Leu Met Lys Ile Gln Gln Lys Leu Lys Met
 50 55 60
 Glu Glu Tyr Asp Asp Val Asn Val Leu Thr Ala Asp Phe Gln Leu Leu
 65 70 75 80
 Phe Asn Asn Ala Lys Ala Tyr Tyr Lys Pro Asp Ser Pro Glu Tyr Lys
 85 90 95
 Ala Ala Cys Lys Leu Trp Glu Leu Tyr Leu
 100 105

<210> 30
 <211> 112
 <212> PRT
 <213> Gallus gallus

<400> 30
 Ser Ser Pro Gly Tyr Leu Lys Glu Ile Leu Glu Gln Leu Leu Glu Ala
 1 5 10 15
 Val Ala Val Ala Thr Asn Pro Ser Gly Arg Leu Ile Ser Glu Leu Phe
 20 25 30
 Gln Lys Leu Pro Ser Lys Val Gln Tyr Pro Asp Tyr Tyr Ala Ile Ile
 35 40 45
 Lys Glu Pro Ile Asp Leu Lys Thr Ile Ala Gln Arg Ile Gln Asn Gly
 50 55 60
 Thr Tyr Lys Ser Ile His Ala Met Ala Lys Asp Ile Asp Leu Leu Ala
 65 70 75 80
 Lys Asn Ala Lys Thr Tyr Asn Glu Pro Gly Ser Gln Val Phe Lys Asp
 85 90 95
 Ala Asn Ala Ile Lys Lys Ile Phe Asn Met Lys Lys Ala Glu Ile Glu
 100 105 110

<210> 31
 <211> 112

<212> PRT

<213> Gallus gallus

<400> 31

Thr Ser Phe Met Asp Thr Ser Asn Pro Leu Tyr Gln Leu Tyr Asp Thr
 1 5 10 15

Val Arg Ser Cys Arg Asn Asn Gln Gly Gln Leu Ile Ser Glu Pro Phe
 20 25 30

Phe Gln Leu Pro Ser Lys Lys Lys Tyr Pro Asp Tyr Tyr Gln Gln Ile
 35 40 45

Lys Thr Pro Ile Ser Leu Gln Gln Ile Arg Ala Lys Leu Lys Asn His
 50 55 60

Glu Tyr Glu Thr Leu Asp Gln Leu Glu Ala Asp Leu Asn Leu Met Phe
 65 70 75 80

Glu Asn Ala Lys Arg Tyr Asn Val Pro Asn Ser Ala Ile Tyr Lys Arg
 85 90 95

Val Leu Lys Met Gln Gln Val Met Gln Ala Lys Lys Lys Glu Leu Ala
 100 105 110

<210> 32

<211> 113

<212> PRT

<213> Gallus gallus

<400> 32

Ser Lys Lys Asn Met Arg Lys Gln Arg Met Lys Ile Leu Tyr Asn Ala
 1 5 10 15

Val Leu Glu Ala Arg Glu Ser Gly Thr Gln Arg Arg Leu Cys Asp Leu
 20 25 30

Phe Met Val Lys Pro Ser Lys Lys Asp Tyr Pro Asp Tyr Tyr Lys Ile
 35 40 45

Ile Leu Glu Pro Met Asp Leu Lys Met Ile Glu His Asn Ile Arg Asn
 50 55 60

Asp Lys Tyr Val Gly Glu Glu Ala Met Ile Asp Asp Met Lys Leu Met
 65 70 75 80

Phe Arg Asn Ala Arg His Tyr Asn Glu Glu Gly Ser Gln Val Tyr Asn
 85 90 95

Asp Ala His Met Leu Glu Lys Ile Leu Lys Glu Lys Arg Lys Glu Leu
 100 105 110

Gly

<210> 33

<211> 115

<212> PRT

<213> Gallus gallus

<400> 33

Lys Lys Ser Lys Tyr Met Thr Pro Met Gln Gln Lys Leu Asn Glu Val
 1 5 10 15

Tyr Glu Ala Val Lys Asn Tyr Thr Asp Lys Arg Gly Arg Arg Leu Ser
 20 25 30

Ala Ile Phe Leu Arg Leu Pro Ser Arg Ser Glu Leu Pro Asp Tyr Tyr
 35 40 45

Ile Thr Ile Lys Lys Pro Val Asp Met Glu Lys Ile Arg Ser His Met
 50 55 60

Met Ala Asn Lys Tyr Gln Asp Ile Asp Ser Met Val Glu Asp Phe Val
 65 70 75 80

Met Met Phe Asn Asn Ala Cys Thr Tyr Asn Glu Pro Glu Ser Leu Ile
 85 90 95

Tyr Lys Asp Ala Leu Val Leu His Lys Val Leu Leu Glu Thr Arg Arg
 100 105 110

Glu Ile Glu
 115

<210> 34

<211> 112

<212> PRT

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: see Jeanmougin et al.,
 Trends in Biochem. Sci. 22:151-153 (1997)

<400> 34

His Asn Ala Pro Phe Asp Lys Thr Lys Phe Asp Glu Val Leu Glu Ala
 1 5 10 15

Leu Val Gly Leu Lys Asp Asn Glu Gly Asn Pro Phe Asp Asp Ile Phe
 20 25 30

Glu Glu Leu Pro Ser Lys Arg Tyr Phe Pro Asp Tyr Tyr Gln Ile Ile
 35 40 45

Gln Lys Pro Ile Cys Tyr Lys Met Met Arg Asn Lys Ala Lys Thr Gly
 50 55 60

Lys Tyr Leu Ser Met Gly Asp Phe Tyr Asp Asp Ile Arg Leu Met Val
 65 70 75 80

Ser Asn Ala Gln Thr Tyr Asn Met Pro Gly Ser Leu Val Tyr Glu Cys
 85 90 95

Ser Val Leu Ile Ala Asn Thr Ala Asn Ser Leu Glu Ser Lys Asp Gly
 100 105 110

<210> 35

<211> 113

<212> PRT

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: see Jeanmougin et al.,
 Trends in Biochem. Sci. 22:151-153 (1997)

<400> 35

Gly Thr Asn Glu Ile Asp Val Pro Lys Val Ile Gln Asn Ile Leu Asp
 1 5 10 15

Ala Leu His Glu Glu Lys Asp Glu Gln Gly Arg Phe Leu Ile Asp Ile
 20 25 30

Phe Ile Asp Leu Pro Ser Lys Arg Leu Tyr Pro Asp Tyr Tyr Glu Ile
 35 40 45

Ile Lys Ser Pro Met Thr Ile Lys Met Leu Glu Lys Arg Phe Lys Lys
 50 55 60

Gly Glu Tyr Thr Thr Leu Glu Ser Phe Val Lys Asp Leu Asn Gln Met
 65 70 75 80

Phe Ile Asn Ala Lys Thr Tyr Asn Ala Pro Gly Ser Phe Val Tyr Glu
 85 90 95

Asp Ala Glu Lys Leu Ser Gln Leu Ser Ser Ser Leu Ile Ser Ser Phe
 100 105 110

Ser

<210> 36

<211> 113

<212> PRT

<213> Homo sapiens

<400> 36

Gly Thr Asn Glu Ile Asp Val Pro Lys Val Ile Gln Asn Ile Leu Asp
 1 5 10 15

Ala Leu His Glu Glu Lys Asp Glu Gln Gly Arg Phe Leu Ile Asp Ile
 20 25 30

Phe Ile Asp Leu Pro Ser Lys Arg Leu Tyr Pro Asp Tyr Tyr Glu Ile
 35 40 45

Ile Lys Ser Pro Met Thr Ile Lys Met Leu Glu Lys Arg Phe Lys Lys
 50 55 60

Gly Glu Tyr Thr Thr Leu Glu Ser Phe Val Lys Asp Leu Asn Gln Met
 65 70 75 80

Phe Ile Asn Ala Lys Thr Tyr Asn Ala Pro Gly Ser Phe Val Tyr Glu
85 90 95

Asp Ala Glu Lys Leu Ser Gln Leu Ser Ser Ser Leu Ile Ser Ser Phe
100 105 110

Ser

<210> 37

<211> 114

<212> PRT

<213> Homo sapiens

<400> 37

Ser Pro Asn Pro Pro Asn Leu Thr Lys Lys Met Lys Lys Ile Val Asp
1 5 10 15

Ala Val Ile Lys Tyr Lys Asp Ser Ser Ser Gly Arg Gln Leu Ser Glu
20 25 30

Val Phe Ile Gln Leu Pro Ser Arg Lys Glu Leu Pro Glu Tyr Tyr Glu
35 40 45

Leu Ile Arg Lys Pro Val Asp Phe Lys Lys Ile Lys Glu Arg Ile Arg
50 55 60

Asn His Lys Tyr Arg Ser Leu Asn Asp Leu Glu Lys Asp Val Met Leu
65 70 75 80

Leu Cys Gln Asn Ala Gln Thr Phe Asn Leu Glu Gly Ser Leu Ile Tyr
85 90 95

Glu Asp Ser Ile Val Leu Gln Ser Val Phe Thr Ser Val Arg Gln Lys
100 105 110

Ile Glu

<210> 38

<211> 113

<212> PRT

<213> Gallus gallus

<400> 38

Ser Pro Asn Pro Pro Lys Leu Thr Lys Gln Met Asn Ala Ile Ile Asp
1 5 10 15

Thr Val Ile Asn Tyr Lys Asp Ser Ser Gly Arg Gln Leu Ser Glu Val
20 25 30

Phe Ile Gln Leu Pro Ser Arg Lys Glu Leu Pro Glu Tyr Tyr Glu Leu
35 40 45

Ile Arg Lys Pro Val Asp Phe Lys Lys Ile Lys Glu Arg Ile Arg Asn
50 55 60

His Lys Tyr Arg Ser Leu Gly Asp Leu Glu Lys Asp Val Met Leu Leu
65 70 75 80

Cys His Asn Ala Gln Thr Phe Asn Leu Glu Gly Ser Gln Ile Tyr Glu
85 90 95

Asp Ser Ile Val Leu Gln Ser Val Phe Lys Ser Ala Arg Gln Lys Ile
100 105 110

Ala

<210> 39

<211> 114

<212> PRT

<213> Gallus gallus

<400> 39

Ser Pro Asn Pro Pro Asn Leu Thr Lys Lys Met Lys Lys Ile Val Asp
1 5 10 15

Ala Val Ile Lys Tyr Lys Asp Ser Ser Ser Gly Arg Gln Leu Ser Glu
20 25 30

Val Phe Ile Gln Leu Pro Ser Arg Lys Glu Leu Pro Glu Tyr Tyr Glu
35 40 45

Leu Ile Arg Lys Pro Val Asp Phe Lys Lys Ile Lys Glu Arg Ile Arg
50 55 60

Asn His Lys Tyr Arg Ser Leu Asn Asp Leu Glu Lys Asp Val Met Leu
65 70 75 80

Leu Cys Gln Asn Ala Gln Thr Phe Asn Leu Glu Val Ser Leu Ile Tyr
85 90 95

Glu Asp Ser Ile Val Leu Gln Ser Val Phe Thr Ser Val Arg Gln Lys
100 105 110

Ile Glu

<210> 40

<211> 105

<212> PRT

<213> Homo sapiens

<400> 40

Ala Lys Leu Ser Pro Ala Asn Gln Arg Lys Cys Glu Arg Val Leu Leu
1 5 10 15

Ala Leu Phe Cys His Glu Pro Cys Arg Pro Leu His Gln Leu Ala Thr
20 25 30

Asp Ser Thr Phe Ser Leu Asp Gln Pro Gly Gly Thr Leu Asp Leu Thr
35 40 45

Leu Ile Arg Ala Arg Leu Gln Glu Lys Leu Ser Pro Pro Tyr Ser Ser
 50 55 60
 Pro Gln Glu Phe Ala Gln Asp Val Gly Arg Met Phe Lys Gln Phe Asn
 65 70 75 80
 Lys Leu Thr Glu Asp Lys Ala Asp Val Gln Ser Ile Ile Gly Leu Gln
 85 90 95
 Arg Phe Phe Glu Thr Arg Met Asn Glu
 100 105

<210> 41
 <211> 105
 <212> PRT
 <213> Mus musculus

<400> 41
 Ala Lys Leu Ser Pro Ala Asn Gln Arg Lys Cys Glu Arg Val Leu Leu
 1 5 10 15
 Ala Leu Phe Cys His Glu Pro Cys Arg Pro Leu His Gln Leu Ala Thr
 20 25 30
 Asp Ser Thr Phe Ser Met Glu Gln Pro Gly Gly Thr Leu Asp Leu Thr
 35 40 45
 Leu Ile Arg Ala Arg Leu Gln Glu Lys Leu Ser Pro Pro Tyr Ser Ser
 50 55 60
 Pro Gln Glu Phe Ala Gln Asp Val Gly Arg Met Phe Lys Gln Phe Asn
 65 70 75 80
 Lys Leu Thr Glu Asp Lys Ala Asp Val Gln Ser Ile Ile Gly Leu Gln
 85 90 95
 Arg Phe Phe Glu Thr Arg Met Asn Asp
 100 105

<210> 42
 <211> 108
 <212> PRT
 <213> Mus sp.

<400> 42
 Thr Lys Leu Thr Pro Ile Asp Lys Arg Lys Cys Glu Arg Leu Leu Leu
 1 5 10 15
 Phe Leu Tyr Cys His Glu Met Ser Leu Ala Phe Gln Asp Pro Val Pro
 20 25 30
 Leu Thr Val Pro Asp Tyr Tyr Lys Ile Ile Lys Asn Pro Met Asp Leu
 35 40 45
 Ser Thr Ile Lys Lys Arg Leu Gln Glu Asp Tyr Cys Met Tyr Thr Lys
 50 55 60

Pro Glu Asp Phe Val Ala Asp Phe Arg Leu Ile Phe Gln Asn Cys Ala
 65 70 75 80

Glu Phe Asn Glu Pro Asp Ser Glu Val Ala Asn Ala Gly Ile Lys Leu
 85 90 95

Glu Ser Tyr Phe Glu Glu Leu Leu Lys Asn Leu Tyr
 100 105

<210> 43

<211> 27

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic bromodomain peptide

<220>

<221> MOD_RES

<222> (1)..(2)

<223> Any amino acid

<220>

<221> MOD_RES

<222> (4)..(6)

<223> Any amino acid; this range may encompass 2-3 residues

<220>

<221> MOD_RES

<222> (8)..(15)

<223> Any amino acid; this range may encompass 5-8 residues

<220>

<221> MOD_RES

<222> (16)

<223> Pro, Lys or His

<220>

<221> MOD_RES

<222> (17)

<223> Any amino acid

<220>

<221> MOD_RES

<222> (19)

<223> Tyr, Phe or His

<220>

<221> MOD_RES

<222> (20)..(24)

<223> Any amino acid

<220>

<221> MOD_RES

<222> (26)

<223> Met, Ile or Val

<400> 43

Xaa Xaa Phe Xaa Xaa Xaa Pro Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 1 5 10 15

Xaa Tyr Xaa Xaa Xaa Xaa Xaa Xaa Pro Xaa Asp
 20 25

<210> 44

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic bromodomain peptide

<400> 44

Trp Pro Phe Met Glu Pro Val Lys Arg Thr Glu Ala Pro Gly Tyr Tyr
 1 5 10 15

Glu Val Ile Arg
 20

<210> 45

<211> 101

<212> PRT

<213> Human immunodeficiency virus type 1

<220>

<223> Tat protein

<400> 45

Met Glu Pro Val Asp Pro Arg Leu Glu Pro Trp Lys His Pro Gly Ser
 1 5 10 15

Gln Pro Lys Thr Ala Ser Asn Asn Cys Tyr Cys Lys Arg Cys Cys Leu
 20 25 30

His Cys Gln Val Cys Phe Thr Lys Lys Gly Leu Gly Ile Ser Tyr Gly
 35 40 45

Arg Lys Lys Arg Arg Gln Arg Arg Arg Ala Pro Gln Asp Ser Lys Thr
 50 55 60

His Gln Val Ser Leu Ser Lys Gln Pro Ala Ser Gln Pro Arg Gly Asp
 65 70 75 80

Pro Thr Gly Pro Lys Glu Ser Lys Lys Lys Val Glu Arg Glu Thr Glu
 85 90 95

Thr Asp Pro Glu Asp
 100

<210> 46

<211> 9

<212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic HIV-1 Tat peptide

<220>
 <221> MOD_RES
 <222> (5)..(7)
 <223> Any amino acid

<400> 46
 Tyr Gly Arg Lys Xaa Xaa Xaa Arg Gln
 1 5

<210> 47
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic HIV-1 Tat peptide

<400> 47
 Ser Tyr Gly Arg Lys Lys Arg Arg Gln Arg
 1 5 10

<210> 48
 <211> 21
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic HIV-1 Tat peptide

<220>
 <221> MOD_RES
 <222> (2)..(5)
 <223> Any amino acid; this range may encompass 2-4 residues

<220>
 <221> MOD_RES
 <222> (7)..(10)
 <223> Any amino acid; this range may encompass 2-4 residues

<220>
 <221> MOD_RES
 <222> (12)..(15)
 <223> Any amino acid; this range may encompass 2-4 residues

<220>
 <221> MOD_RES
 <222> (17)..(19)
 <223> Any amino acid; this range may encompass 1-3 residues

<220>

<221> MOD_RES

<222> (21)

<223> Ile, Leu, Met or Val

<400> 48

Phe Xaa Xaa Xaa Xaa Val Xaa Xaa Xaa Xaa Glu Xaa Xaa Xaa Xaa Tyr
1 5 10 15

Xaa Xaa Xaa Val Xaa
20

<210> 49

<211> 62

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic bromodomain peptide

<400> 49

Phe Met Glu Pro Val Lys Arg Thr Glu Ala Pro Gly Tyr Tyr Glu Val
1 5 10 15

Ile Arg Phe Pro Met Asp Leu Lys Thr Met Ser Glu Arg Leu Lys Asn
20 25 30

Arg Tyr Tyr Val Ser Lys Lys Leu Phe Met Ala Asp Leu Gln Arg Val
35 40 45

Phe Thr Asn Cys Lys Glu Tyr Asn Ala Ala Glu Ser Glu Tyr
50 55 60

<210> 50

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic HIV-1 Tat peptide

<220>

<221> MOD_RES

<222> (5)..(5)

<223> acetylated lysine

<400> 50

Ser Tyr Gly Arg Xaa Lys Arg Arg Gln Arg Cys
1 5 10

<210> 51

<211> 11

<212> PRT

<213> Artificial Sequence

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<220>
<223> synthetic HIV-1 Tat peptide

<220>
<221> MOD_RES
<222> (5)..(5)
<223> acetylated lysine

<400> 51
Ser Ala Gly Arg Xaa Lys Arg Arg Gln Arg Cys
1          5          10

<210> 52
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic HIV-1 Tat peptide

<220>
<221> MOD_RES
<222> (5)..(5)
<223> acetylated lysine

<400> 52
Ser Tyr Gly Ala Xaa Lys Arg Arg Gln Arg Cys
1          5          10

<210> 53
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic HIV-1 Tat peptide

<220>
<221> MOD_RES
<222> (5)..(5)
<223> acetylated lysine

<400> 53
Ser Tyr Gly Arg Xaa Ala Arg Arg Gln Arg Cys
1          5          10

<210> 54
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic HIV-1 Tat peptide

<220>
<221> MOD_RES
<222> (5)..(5)
<223> acetylated lysine

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<400> 54
 Ser Tyr Gly Arg Xaa Lys Ala Arg Gln Arg Cys
 1 5 10

<210> 55
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic HIV-1 Tat peptide

<220>
 <221> MOD_RES
 <222> (5)..(5)
 <223> acetylated lysine

<400> 55
 Ser Tyr Gly Arg Xaa Lys Arg Ala Gln Arg Cys
 1 5 10

<210> 56
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic HIV-1 Tat peptide

<220>
 <221> MOD_RES
 <222> (5)..(5)
 <223> acetylated lysine

<400> 56
 Ser Tyr Gly Arg Xaa Lys Arg Arg Ala Arg Cys
 1 5 10

<210> 57
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic HIV-1 Tat peptide

<220>
 <221> MOD_RES
 <222> (6)..(6)
 <223> acetylated lysine

<400> 57
 Ser Tyr Gly Arg Lys Xaa Arg Arg Gln Arg Cys
 1 5 10

<210> 58
 <211> 11

<212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic HIV-1 Tat peptide

<220>
 <221> MOD_RES
 <222> (7)..(7)
 <223> acetylated lysine

<400> 58
 Thr Asn Cys Tyr Cys Lys Xaa Cys Cys Phe His
 1 5 10

<210> 59
 <211> 20
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic histone H4 AcK16 peptide

<220>
 <221> MOD_RES
 <222> (16)..(16)
 <223> acetylated lysine

<400> 59
 Ser Gly Arg Gly Lys Gly Gly Lys Gly Leu Gly Lys Gly Gly Ala Xaa
 1 5 10 15

Arg His Arg Lys
 20

<210> 60
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic HIV-1 Tat peptide

<400> 60
 Ser Tyr Gly Arg Lys Lys Arg Arg Gln Arg Cys
 1 5 10

<210> 61
 <211> 6
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> hexahistidine tag

<400> 61

His His His His His His
1 5

<210> 62

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic peptide

<220>

<221> MOD_RES

<222> (8)

<223> acetyl lysine

<400> 62

Ser Gly Arg Gly Lys Gly Gly Xaa Gly Leu Gly Lys
1 5 10

<210> 63

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic peptide

<220>

<221> MOD_RES

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